ABSTRACT

A preferred embodiment of the invention is a method for determining a preferred sequence alignment between a query sequence and one or more template sequences comprising the steps of: 1) aligning at least two reference sequences to determine one or

5   more BRIDGE/BULGE gaps; 2) determining an alignment score between each potential alignment of the query sequence and each template sequence based on whether or not a given sequence alignment between the query sequence and each template sequence creates a BRIDGE/BULGE gap and 3) determining a preferred sequence alignment based on the alignment scores of the query sequence with each template sequence.